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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/478,999	01/07/2000	THOMAS PIAZZA	219.37927X00	2472

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ANTONELLI TERRY STOUT AND KRAUS
SUITE 1800
1300 NORTH SEVENTEENTH STREET
ARLINGTON, VA 22209

EXAMINER

GOOD JOHNSON, MOTILEWA

ART UNIT PAPER NUMBER

2672

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/478,999

Applicant(s)

PIAZZA ET AL.

Examiner

Motilewa A. Good-Johnson

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other:

DETAILED ACTION

1. This office action is responsive to the following communications: Application, filed on 01/07/2000; IDS, paper#4, filed on 01/07/2000.
2. Claims 1-26 are pending in this application. Claims 1, 14, 17 and 21-23 are independent claims. No claims have yet been amended.
3. The present title of this application is "Multi-Pass 4:2:0 Sub picture Blending" (as originally filed).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Herrera, U.S. Patent Number 6,208,350, "Methods and Apparatus for Processing DVD Video", class 345/582, 03/2001, filed on 11/04/1997.

As per independent claim 1, a method of blending a subpicture signal and a video signal comprising: receiving a subpicture signal . . . providing a plurality of alpha values . . . to identify a plurality of subpicture Y, U and V values; receiving a video signal . . . in a planar format; blending each of the Y values of the video signal with a corresponding Y value of the subpicture . . . ; blending each of the U values of the video signal with a corresponding U value of the subpicture . . . ; blending each of the V values of the video signal with a corresponding V value of the subpicture . . . ; wherein . . . Y values, U values and V values are provided in a planar format. Herrera discloses DVD sub-pictures blended with the video for translucent overlay in the final digital video signal, col. 2, lines 43-50. Herrera discloses a planar YUV format, col. 2, line 59. Herrera further discloses alpha blending the decoded MPEG video with the sub-picture, col. 15, lines 64-67; blending the video components with the subpicture component where alpha provides the levels of blend for each color, col. 17, lines 1-28.

With respect to dependent claim 2, receiving a subpicture signal comprises . . . the subpicture signal including a plurality of alpha values and a plurality of palette indexes. Herrera discloses that the sub-picture is composed of colors from a palette, col. 2, lines 43-45. Herrera discloses the sub-picture is represented by an index to the table and a blend value, col. 17, lines 23-25.

With respect to dependent claim 3, identifying subpicture Y, U and V values based upon the palette indexes. Herrera discloses performing a table lookup to obtain values for the sub-picture, col. 17, lines 25-28.

With respect to dependent claim 4, the Y, U and V values of the video signal are provided in a 4:2:0 format . . . blending are performed in the 4:2:0 format. Herrera discloses pixel values for three components YUV in planar 4:2:0 format, col. 15, lines 54-57.

With respect to dependent claims 5-7, performing motion compensation on each of the Y (U, V) values . . . ; and blending each of the motion compensated Y (U, V) values based on a corresponding alpha value . . . Herrera discloses performing motion compensation for each plane of the Y, U and V samples, col. 13, lines 22-67.

With respect to dependent claim 8, Herrera discloses the sub-picture stream decoded into a bitmap composed of colors from a palette of sixteen colors for blending the final digital video signal, col. 2, lines 39-50.

With respect to dependent claim 9, converting the sets of blended Y values, U values and V values from a planar YUV 4:2:0 format to an interleaved YUV 4:2:2 format. Herrera discloses YUV 4:2:0 conversion to an interleaved YUV 4:2:2 format, col. 2, line 59.

With respect to dependent claim 10, color converting the blended Y values, U values and V values from a YUV 4:2:2 format to a RGB format. Herrera discloses converting the YUV 4:2:2 video pixel to RGB, col. 17, lines 25-27.

With respect to dependent claim 11, steps of blending are performed at render time. Herrera discloses a rendering algorithm for images to be displayed on the display device, col. 11, lines 38-43.

With respect to dependent claim 12, the video signal comprises a DVD video signal, and wherein the subpicture signal comprises a DVD subpicture signal. Herrera discloses an incoming DVD data stream and further discloses decoding the sub-picture stream in accordance with DVD specifications, col. 2, lines 1-50.

With respect to dependent claim 13, Herrera discloses the sub-picture stream decoded into a bitmap composed of colors from a palette of sixteen colors intended to be blended in the final digital video signal, col. 2, lines 39-50. Herrera further discloses one pass through each Y, U and V picture, col. 16, lines 25-27.

As per independent claim 14, it is rejected based upon similar rational as above independent claim 1 and dependent claim 2.

With respect to dependent claim 15, Herrera discloses the sub-picture stream decoded into a bitmap composed of colors from a palette of sixteen colors intended to be blended in the final digital video signal, col. 2, lines 39-50.

With respect to dependent claim 16, the subpicture palette comprises a texture palette loaded with subpicture values for performing the steps of blending. Herrera discloses applying texture maps for pictures, col. 14, lines 7-44.

As per independent claim 17, Herrera discloses a sub-picture stream decoded into a bitmap composed of colors from a palette of sixteen colors intended to be blended in the final digital video signal, col. 2, lines 39-50. Herrera discloses an alpha blend process to produce a translucent overlay in which video signals and sub-picture digital video signals are blended together, col. 3, lines 14-19 and further discloses a planar YUV format, col. 2, line 59.

With respect to dependent claim 18, Herrera discloses a palette for sub-pictures, col. 2, lines 43-45.

With respect to dependent claim 19, Herrera discloses the sup-picture is represented by an index to the table and a blend value, col. 17, lines 23-25.

With respect to dependent claim 20, Herrera discloses performing motion compensation for each plane of the Y, U and V samples, col. 13, lines 22-67.

As per independent claim 21, Herrera discloses a palette for sub-pictures, col. 2, lines 43-45. Herrera discloses an alpha blend process to produce a translucent overlay in which video signals and sub-picture digital video signals are blended together, col. 3, lines 14-19, and discloses a planar YUV 4:2:0 format, col. 2, line 59. Herrera further discloses one pass through each Y, U and V picture, col. 16, lines 25-27.

As per independent claim 22, Herrera discloses a palette for sub-pictures, col. 2, lines 43-45. Herrera discloses a planar YUV 4:2:0 format, col. 2, line 59. Herrera further discloses one pass through each Y, U and V picture, col. 16, lines 25-27.

As per independent claim 23, it is rejected based upon similar rational as above independent claim 22.

With respect to dependent claim 24, Herrera discloses the sup-picture is represented by an index to the table and a blend value, col. 17, lines 23-25.

With respect to dependent claim 25, Herrera discloses a palette for sub-pictures, col. 2, lines 43-45. Herrera further discloses blending the video components with the subpicture component where alpha provides the levels of blend for each color, col. 17, lines 1-28.

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With respect to dependent claim 26, Herrera discloses blending the video picture components with the sub-picture component to produce a final output pixel and discloses each sub-picture pixel represented by an index to a table and an accompanying blend value, col. 17, lines 20-25. It is inherent that for a plurality of subpicture values more than one palette or table would need to be loaded and indexed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa A. Good-Johnson whose telephone number is (703) 305-3939. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Motilewa A. Good-Johnson
Examiner
Art Unit 2672

mgj
September 17, 2002



MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600